

May 5, 1959

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Dear Doc:

We have considered the various units which we could install in the volumes available to us. In the volume between station 60 and 120 there appear to be three systems which would fit. These systems are the Schmidt System of approximately 24" focal length, the system described in our engineering report of 17.5" focal length, and an f/2 refracting system of approximately 6" focal length. If the volume is changed so that it extends rearward of station 120 and therefore has greater height with the same width, it appears that the same three types of system could go in, but with longer focal lengths. These focal lengths being approximately 30 to 36 inches for the Schmidt System, 22 inches for the system similar to that described in our engineering report, and 9 inches for an f/2 refracting system. If a long narrow and high volume is provided, systems without a convergent capability consisting of rotating units are possible. One such unit might consist of two 24" refracting units with about an f/6 or f/4 focal ratio.

We intend to consider these systems at least and characterize them by the points listed below. However, if you feel that there are some other systems which should be given consideration and which we have omitted from this list, please let us know and we will endeavor to give them the same type of consideration which we intend to apply to these systems. Points by which we intend to characterize these systems in our tabulation are: focal length, tube length, film type, film speed, exposure time, T-number, f-number, tube diameter, focal surface characteristics, image spot size on axis, image spot size at edge of field, limit to depth of field, depth of field, aberrations, glass weight, cell weight, coverage method, coverage, IMC method, IMC component weight, film capacity, film spool diameter, film weight, film transport method, film transport system weight, shutter, shutter weight, window size, window weight, stabilizer weight, miscellaneous weights (v/h, auto-balance, exposure control, focus control, caging, etc.), system weight (excluding window), graph of modulation transfer function, graph of ground resolution vs. ground modulation, special notes (one or two units, ease of fabrication and maintenance, special cost considerations, rare glasses, cartographic features, etc.).

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On another subject, the sensitometer which is at the [REDACTED] will not be needed here for a month or two. The model 101 is the type that we desire and will have most use for. It is my recollection that there were actually two sensitometers at the [REDACTED] neither of which were put to much use. However, one of these sensitometers may very well have been the property of [REDACTED] company, therefore, not generally available for project use.

Best Regards,

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MDR:hmm